```java
package com.spisanie_emiter.otpornici;


import android.os.Bundle;

import android.annotation.SuppressLint;

import android.app.Activity;

import android.content.Intent;

import android.view.KeyEvent;

import android.view.View;

import android.view.Window;

import android.widget.AdapterView;

import android.widget.AdapterView.OnItemSelectedListener;

import android.widget.ArrayAdapter;

import android.widget.ImageView;

import android.widget.Spinner;

import android.widget.TextView;


@SuppressLint("DefaultLocale")

public class Activity_FourRingsCalculator extends Activity {


        Spinner spinner_firstRing;

        Spinner spinner_secondRing;

        Spinner spinner_thirdRing;

        Spinner spinner_fourthRing;


        ArrayAdapter<String> adapter_firstRing;
```

```java
ArrayAdapter<String> adapter_thirdRing;

ArrayAdapter<String> adapter_fourthRing;


ImageView imageView_firstRing;

ImageView imageView_secondRing;

ImageView imageView_thirdRing;

ImageView imageView_fourthRing;


String[] colors_firstRing;

String[] colors_thirdRing;

String[] colors_fourthRing;


int[] colorPaths_firstRing;

int[] colorPaths_thirdRing;

int[] colorPaths_fourthRing;


@Override
protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        requestWindowFeature(Window.FEATURE_NO_TITLE);

        setContentView(R.layout.activity_fourringscalculator);


        spinner_firstRing = (Spinner)findViewById(R.id.spinner_firstRing);
```

```java
spinner_secondRing = (Spinner)findViewById(R.id.spinner_secondRing);

spinner_thirdRing = (Spinner)findViewById(R.id.spinner_thirdRing);

spinner_fourthRing = (Spinner)findViewById(R.id.spinner_fourthRing);


imageView_firstRing = (ImageView)findViewById(R.id.imageView_firstRing);

imageView_secondRing = (ImageView)findViewById(R.id.imageView_secondRing);

imageView_thirdRing = (ImageView)findViewById(R.id.imageView_thirdRing);

imageView_fourthRing = (ImageView)findViewById(R.id.imageView_fourthRing);


colors_firstRing = new String[10]; // same colors will be used for the second ring

colors_thirdRing = new String[12];

colors_fourthRing = new String[8];


colorPaths_firstRing = new int[10];

colorPaths_thirdRing = new int[12];

colorPaths_fourthRing = new int[8];


colors_firstRing[0]="Црна";

colors_firstRing[1]="Кафена";

colors_firstRing[2]="Црвена";

colors_firstRing[3]="Портокалова";

colors_firstRing[4]="Жолта";

colors_firstRing[5]="Зелена";

colors_firstRing[6]="Сина";

colors_firstRing[7]="Виолетова";
```

```
colors_firstRing[8]="Сива";

colors_firstRing[9]="Бела";


colors_thirdRing[0]="Црна";

colors_thirdRing[1]="Кафена";

colors_thirdRing[2]="Црвена";

colors_thirdRing[3]="Портокалова";

colors_thirdRing[4]="Жолта";

colors_thirdRing[5]="Зелена";

colors_thirdRing[6]="Сина";

colors_thirdRing[7]="Виолетова";

colors_thirdRing[8]="Сива";

colors_thirdRing[9]="Бела";

colors_thirdRing[10]="Златна";

colors_thirdRing[11]="Сребрена";


colors_fourthRing[0] = "Кафена";

colors_fourthRing[1] = "Црвена";

colors_fourthRing[2] = "Зелена";

colors_fourthRing[3] = "Сина";

colors_fourthRing[4] = "Виолетова";

colors_fourthRing[5] = "Златна";

colors_fourthRing[6] = "Сребрена";

colors_fourthRing[7] = "Без боја";
```

```
colorPaths_firstRing[0]=R.drawable.r_black;

colorPaths_firstRing[1]=R.drawable.r_brown;

colorPaths_firstRing[2]=R.drawable.r_red;

colorPaths_firstRing[3]=R.drawable.r_orange;

colorPaths_firstRing[4]=R.drawable.r_yellow;

colorPaths_firstRing[5]=R.drawable.r_green;

colorPaths_firstRing[6]=R.drawable.r_blue;

colorPaths_firstRing[7]=R.drawable.r_violet;

colorPaths_firstRing[8]=R.drawable.r_gray;

colorPaths_firstRing[9]=R.drawable.r_white;


colorPaths_thirdRing[0]=R.drawable.r_black;

colorPaths_thirdRing[1]=R.drawable.r_brown;

colorPaths_thirdRing[2]=R.drawable.r_red;

colorPaths_thirdRing[3]=R.drawable.r_orange;

colorPaths_thirdRing[4]=R.drawable.r_yellow;

colorPaths_thirdRing[5]=R.drawable.r_green;

colorPaths_thirdRing[6]=R.drawable.r_blue;

colorPaths_thirdRing[7]=R.drawable.r_violet;

colorPaths_thirdRing[8]=R.drawable.r_gray;

colorPaths_thirdRing[9]=R.drawable.r_white;

colorPaths_thirdRing[10]=R.drawable.r_gold;

colorPaths_thirdRing[11]=R.drawable.r_silver;


colorPaths_fourthRing[0] = R.drawable.r_brown;
```

```java
        colorPaths_fourthRing[1] = R.drawable.r_red;

        colorPaths_fourthRing[2] = R.drawable.r_green;

        colorPaths_fourthRing[3] = R.drawable.r_blue;

        colorPaths_fourthRing[4] = R.drawable.r_violet;

        colorPaths_fourthRing[5] = R.drawable.r_gold;

        colorPaths_fourthRing[6] = R.drawable.r_silver;

        colorPaths_fourthRing[7] = R.drawable.r_none;


        adapter_firstRing = new
ArrayAdapter<String>(this,android.R.layout.simple_spinner_item,colors_firstRing); // same adapter will
be used for the second ring

        adapter_thirdRing = new
ArrayAdapter<String>(this,android.R.layout.simple_spinner_item,colors_thirdRing);

        adapter_fourthRing = new
ArrayAdapter<String>(this,android.R.layout.simple_spinner_item,colors_fourthRing);


        spinner_firstRing.setAdapter(adapter_firstRing);

        spinner_secondRing.setAdapter(adapter_firstRing);

        spinner_thirdRing.setAdapter(adapter_thirdRing);

        spinner_fourthRing.setAdapter(adapter_fourthRing);


        spinner_firstRing.setOnItemSelectedListener(new OnItemSelectedListener() {


            @Override
            public void onItemSelected(AdapterView<?> arg0, View arg1,
                    int arg2, long arg3) {
                // TODO Auto-generated method stub
```

```java
        imageView_firstRing.setImageDrawable(getResources().getDrawable(colorPaths_firstRing[(int)s
pinner_firstRing.getSelectedItemId()]));

                        CalculateResistance();

                }


                @Override

                public void onNothingSelected(AdapterView<?> arg0) {

                        // TODO Auto-generated method stub


                }
        });


        spinner_secondRing.setOnItemSelectedListener(new OnItemSelectedListener() {


                @Override

                public void onItemSelected(AdapterView<?> arg0, View arg1,

                                int arg2, long arg3) {

                        // TODO Auto-generated method stub

        imageView_secondRing.setImageDrawable(getResources().getDrawable(colorPaths_firstRing[(in
t)spinner_secondRing.getSelectedItemId()]));

                        CalculateResistance();

                }


                @Override

                public void onNothingSelected(AdapterView<?> arg0) {
```

```java
                    // TODO Auto-generated method stub


                }
            });


        spinner_thirdRing.setOnItemSelectedListener(new OnItemSelectedListener() {


                @Override
                public void onItemSelected(AdapterView<?> arg0, View arg1,

                        int arg2, long arg3) {
                    // TODO Auto-generated method stub


    imageView_thirdRing.setImageDrawable(getResources().getDrawable(colorPaths_thirdRing[(int)
spinner_thirdRing.getSelectedItemId()]));

                        CalculateResistance();
                }


                @Override
                public void onNothingSelected(AdapterView<?> arg0) {
                    // TODO Auto-generated method stub


                }
            });


        spinner_fourthRing.setOnItemSelectedListener(new OnItemSelectedListener() {
```

```java
            @Override

            public void onItemSelected(AdapterView<?> arg0, View arg1,

                    int arg2, long arg3) {

                // TODO Auto-generated method stub


    imageView_fourthRing.setImageDrawable(getResources().getDrawable(colorPaths_fourthRing[(int)spinner_fourthRing.getSelectedItemId()]));

                CalculateResistance();

            }



            @Override

            public void onNothingSelected(AdapterView<?> arg0) {

                // TODO Auto-generated method stub



            }

        });
    }



    public void CalculateResistance()

    {

        int firstDigit = (int) spinner_firstRing.getSelectedItemId();

        int secondDigit = (int) spinner_secondRing.getSelectedItemId();

        double thirdValue = (double)spinner_thirdRing.getSelectedItemId();

        int fourthValue = (int)spinner_fourthRing.getSelectedItemId();
```

```java
// bof tolerance determination

String tolerance=(char)177+"20%";


switch (fourthValue) {

case 0:

{

        tolerance = (char)177+"1%";

        break;

}

case 1:

{

        tolerance = (char)177+"2%";

        break;

}

case 2:

{

        tolerance = (char)177+"0,5%";

        break;

}

case 3:

{

        tolerance = (char)177+"0,25%";

        break;

}

case 4:
```

```
        {
                tolerance = (char)177+"0,1%";

                break;

        }

        case 5:

        {

                tolerance = (char)177+"5%";

                break;

        }

        case 6:

        {

                tolerance = (char)177+"10%";

                break;

        }

        case 7:

        {

                tolerance = (char)177+"20%";

                break;

        }


        default:

                break;

        }
        // eof tolerance determination
```

```java
String unit = " [Омн], ";


// low values

if (thirdValue ==10)

{

        thirdValue = 0.1;

}

else if(thirdValue==11)

{

        thirdValue = 0.01;

}

else

{

        thirdValue =(double) Math.pow(10, thirdValue);

}



double firstTwoDigits =
Integer.parseInt(String.valueOf(firstDigit)+String.valueOf(secondDigit));


double FinalValue = firstTwoDigits * thirdValue;


// bof unit determination


if (FinalValue > 1000000)

{
```

```java
        FinalValue = FinalValue/1000000;

        unit = " [Мега Оми], ";

}


else if(FinalValue>1000)

{

        FinalValue = FinalValue/1000;

        unit = " [Кило Оми], ";

}
// eof unit determination


String result="";


// bof decimal places determination
if (FinalValue>10)

{

        result = String.format("%.0f", FinalValue)+unit+tolerance;

}
else if (FinalValue<10 && FinalValue>1)

{

        result = String.format("%.1f", FinalValue)+unit+tolerance;

}
else

{

        result = String.format("%.2f", FinalValue)+unit+tolerance;
```

```java
        }

        // eof decimal places determination


        TextView textView_result = (TextView)findViewById(R.id.textView_result);

        textView_result.setText(result);

    }



    @Override

    public boolean onKeyDown(int keyCode, KeyEvent event)

    {

        if ((keyCode == KeyEvent.KEYCODE_BACK))

        {

            Intent startUpIntent = new Intent(this,Activity_Start.class);

            startActivity(startUpIntent);

            finish();

        }

        return super.onKeyDown(keyCode, event);

    }

}
```